

## ABSTRACT

The invention is comprised of communication devices designed to provide an array of communication services from network systems to a residential or business consumer through broadband wireless communications. The invention provides a diverse mixture of communication services by utilizing a media access control (MAC) and asynchronous time division multiplexing technique. The invention uses a time slotted transmission scheme where data from communication services are multiplexed according to their delivery requirements which include bandwidth, delay and loss requirements. The invention primarily is comprised of a subscriber unit system and a base station system.

The base station system is connected to network systems by a metropolitan fiber ring or terrestrial microwave system using SONET and/or ATM/optic protocols. A base station provides the communication service to the consumer by: 1) receiving a request for a communication service over a wireless transmission link; 2) in response to receiving the request, dynamically configuring a media access control layer in a wireless transmission link for the requested communication service; and 3) generating and transmitting an instruction to provide the requested communication service over the wireless transmission link using the dynamically configured media access control layer.

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